SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\alpha\ 11}$ (D-17): sc-394

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. Each of a very broad range of receptors specifically detects an extracellular stimulus (a photon, pheromone, odorant, hormone or neurotransmitter) while the effectors (e.g. adenyl cyclase), which act to generate one or more intracellular messengers, are less numerous. In mammals, G protein α, β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. Four distinct classes of G_{α} subunits have been identified; these include G_s, G_i, G_q and $G_{\alpha\ 12/13}$. The G_q class includes $G_{\alpha\ 15}$, $G_{\alpha\ 14}$, $G_{\alpha\ 11}$ and $G_{\alpha\ q}$, two of which, $G_{\alpha\ 11}$ and $G_{\alpha\ q}$, are abundant in brain and lung and present at lower levels in a variety of tissues.

CHROMOSOMAL LOCATION

Genetic locus: GNA11 (human) mapping to 19p13.3; Gna11 (mouse) mapping to 10 C1.

SOURCE

$G_{\alpha\ 11}$ (D-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the N-terminus of $G_{\alpha\ 11}$ of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-394 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

$G_{\alpha\ 11}$ (D-17) is recommended for detection of $G_{\alpha\ 11}$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$G_{\alpha\ 11}$ (D-17) is also recommended for detection of $G_{\alpha\ 11}$ in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for $G_{\alpha\ 11}$ siRNA (h): sc-41740, $G_{\alpha\ 11}$ siRNA (m): sc-41741, $G_{\alpha\ 11}$ siRNA (r): sc-45999, $G_{\alpha\ 11}$ shRNA Plasmid (h): sc-41740-SH, $G_{\alpha\ 11}$ shRNA Plasmid (m): sc-41741-SH, $G_{\alpha\ 11}$ shRNA Plasmid (r): sc-45999-SH, $G_{\alpha\ 11}$ shRNA (h) Lentiviral Particles: sc-41740-V, $G_{\alpha\ 11}$ shRNA (m) Lentiviral Particles: sc-41741-V and $G_{\alpha\ 11}$ shRNA (r) Lentiviral Particles: sc-45999-V.

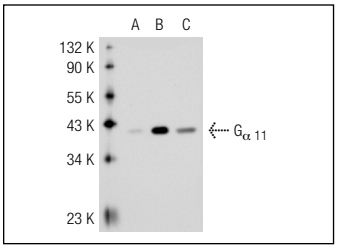
Molecular Weight of Jun D: 45 kDa.

Positive Controls: $G_{\alpha\ 11}$ (m): 293T Lysate: sc-120367 or NIH/3T3 whole cell lysate: sc-2210.

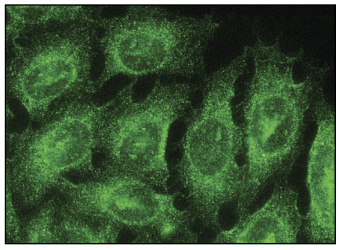
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



$G_{\alpha\ 11}$ (D-17): sc-394. Western blot analysis of $G_{\alpha\ 11}$ expression in non-transfected 293T: sc-117752 (**A**), mouse $G_{\alpha\ 11}$ transfected 293T: sc-120367 (**B**) and NIH/3T3 (**C**) whole cell lysates.



$G_{\alpha\ 11}$ (D-17): sc-394. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Macrez-Leprêtre, N., et al. 1997. Distinct functions of G_q and G_{11} proteins in coupling α1-adrenoreceptors to Ca^{2+} release and Ca^{2+} entry in rat portal vein myocytes. J. Biol. Chem. 272: 5261-5268.
2. Tawfeek, H.A. and Abou-Samra, A.B. 2008. Negative regulation of parathyroid hormone (PTH)-activated phospholipase C by PTH/PTH-related peptide receptor phosphorylation and protein kinase A. Endocrinology 149: 4016-4023.
3. Orth, J.H., et al. 2009. *Pasteurella multocida* toxin activation of heterotrimeric G proteins by deamidation. Proc. Natl. Acad. Sci. USA 106: 7179-7184.
4. Wuertz, C.M., et al. 2010. p63RhoGEF—a key mediator of angiotensin II-dependent signaling and processes in vascular smooth muscle cells. FASEB J. 24: 4865-4876.
5. Descorbeth, M. and Anand-Srivastava, M.B. 2010. Role of vasoactive peptides in high glucose-induced increased expression of $G_{\alpha\ q/11}$ proteins and associated signaling in vascular smooth muscle cells. Can. J. Physiol. Pharmacol. 88: 331-340.
6. Scott, S.A., et al. 2013. Regulation of phospholipase D activity and phosphatidic acid production after purinergic (P2Y6) receptor stimulation. J. Biol. Chem. 288: 20477-20487.

RESEARCH USE

For research use only, not for use in diagnostic procedures.